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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,764	01/16/2004	Akira Yamaguchi	09792909-5771	6420

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EXAMINER

RUTHKOSKY, MARK

ART UNIT	PAPER NUMBER
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1745

MAIL DATE	DELIVERY MODE
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06/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/758,764	Applicant(s) YAMAGUCHI ET AL.	
	Examiner Mark Ruthkosky	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 8-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/22/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statement filed 5/22/2007 has been placed in the application file, and the information referred to therein has been considered as to the merits. The Japanese Office Action cannot be considered because it is not in English and it is not a published document.

Drawings

The drawings filed on 1/16/2004 have been approved.

Election/Restrictions

Applicant's election without traverse of Group I, Claims 1-7 in the reply filed on 5/29/2007 is acknowledged.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the term, "organic high molecular material" is indefinite because the meaning of the term is undefined. The term is a relative term, which renders the claim indefinite. The term is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

In claims 4 and 5, the phrase, "in case" is indefinite because it is not clear whether the phrase requires carbon added to the cathode. It is interpreted as being an optional component because the claims do not require the addition of carbon in all cases.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitsufumi et al.

(JP 09-035,718.)

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The instant claims are to a non-aqueous electrolyte battery comprising a battery device including an anode having an anode mixture containing an anode active material, and a cathode having a cathode mixture containing a cathode active material, said anode and the cathode being layered together via a separator; a solid electrolyte including an organic high molecular material and an electrolyte salt contained therein; and a film-shaped exterior material housing therein said battery device and the solid electrolyte; wherein a gas adsorbing carbon material formed of a carbonaceous material having a specific surface not less than $30 \text{ m}^2/\text{g}$, said gas adsorbing carbon material being added to said anode mixture and/or said cathode mixture for adsorbing a gas evolved within the battery.

Mitsufumi et al. (JP 09-035,718) teaches a non-aqueous electrolyte battery comprising an anode having an anode mixture containing an anode active material, and a cathode having a cathode mixture containing a cathode active material, said anode and the cathode being layered together via a separator (see paragraphs 2-33, figure 1 and the corresponding text); a solid electrolyte including an organic high molecular material and an electrolyte salt contained therein (p. 28-29); and a film-shaped exterior material housing therein said battery device and the solid electrolyte (see figure 1 and p. 30 and 40); wherein a gas adsorbing carbon material formed of a carbonaceous material having a specific surface not less than $30 \text{ m}^2/\text{g}$, said gas adsorbing carbon material being added to said anode mixture and/or said cathode mixture for adsorbing a gas evolved within the battery (abstract, p. 23-26.) Carbon black is activated carbon as it absorbs gasses and is noted in an amount of 0.1-4% in the anode (p. 23-26.) As claims 4-5 do not require carbon in the cathode, the claims are rejected by the same reasoning. Thus, the claims are anticipated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-5 and 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsufumi et al. (JP 09-035,718), as applied above, in view of Takeuchi et al. (US 5,807,645) OR over Takeuchi et al. (US 5,807,645) in view of Mitsufumi et al. (JP 09-035,718)

Mitsufumi et al. (JP 09-035,718) teaches a non-aqueous electrolyte battery, as noted. Mitsufumi et al. (JP 09-035,718) does not teach the battery to have a high surface area carbon added to the cathode mixture in an amount of 0.2-8 wt. % or a gel electrolyte comprising a non-aqueous electrolyte solvent. Takeuchi et al. (US 5,807,645) teaches a battery comprising a positive electrode comprising acetylene black or carbon black having a surface area of not less than 30 m²/g (claim 20) in a range of 1-10 and 2-8 wt. % (see example 1, claims 7-8 and 22-23.) Further, the battery includes a gel electrolyte comprising a lithium salt in a non-aqueous electrolyte solvent that is added to a polymeric separator (col. 5, line 7 to col. 6, line 15.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a high surface area carbon material in the cathode of Mitsufumi et al. (JP 09-035,718) OR to include a high surface area carbon in the anode of Takeuchi et al. (US 5,807,645), as both references teach that adding high surface area carbon diminishes cell swelling, suppresses an increase in internal pressure, and improves the charge transfer capability of the batteries (as

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taught in the references.) The high surface area carbon materials are taught to absorb gasses within the volume of the structure.

Further, using an electrolyte having a non-aqueous solvent would have been obvious to one of ordinary skill in the art at the time of the invention based on the electrolyte materials used in the battery. One of ordinary skill would recognize that aqueous solvents would be used in alkaline hydroxide cells and the non-aqueous solvent electrolytes will be used in lithium ion batteries. The artisan would have found the claimed invention to be obvious in light of the teachings of the references.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsufumi et al. (JP 09-035,718), as applied above, in view of Bannai (US 6,503,656 and EP 1,063,713.)

Mitsufumi et al. (JP 09-035,718) teaches a non-aqueous electrolyte battery, as noted. The battery may be housed in a cylindrical or square shaped housing. Mitsufumi et al. (JP 09-035,718) does not teach the battery to have a laminate film of a metal layer and a resin layer as an exterior casing material. Bannai et al. (EP 1,063,713) teaches a battery to have a laminate film of a metal layer and a resin layer as an exterior casing material (see the claims, p. 21-22.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to house the battery of Mitsufumi et al. (JP 09-035,718) in a casing of a laminate film having a metal layer and a resin layer in order to provide a durable, light-weight casing that has low permeability due to the metal layer and high sealability due to the resin layer (see '713, p. 2-4.) The artisan would have found the claimed invention to be obvious in light of the teachings of the references.

Examiner Correspondence


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 571-272-1291. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:30.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free.)

Mark Ruthkosky

Primary Patent Examiner

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6.11.2007